

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-70. (Cancelled).

71. (Currently Amended): A DNA construct for homologous recombination, comprising:

(A) a first recombination DNA sequence and a second recombination DNA sequence,

wherein the first recombination DNA sequence is homologous to [[the]] a first endogenous DNA sequence in the genome of a mammalian cell, and the second recombination DNA sequence is homologous to a second endogenous DNA sequence in the genome of [[a]] the mammalian cell, and the first and second endogenous sequences are adjacent to a desired insertion site in the genome of the mammalian cell; and

(B) a first insertion DNA sequence and a second insertion DNA sequence, wherein [[said]] the first insertion DNA sequence encodes a first gene product that does not confer resistance to a selection agent involved in the selection of transformants,

[[said]] the second insertion DNA sequence encodes a second gene product that confers resistance to a selection agent involved in the selection of transformants,

the second insertion DNA sequence is downstream of the first insertion DNA sequence,

the second insertion DNA sequence is operatively linked to regulatory elements that direct expression in transformed cells of the second gene product that confers resistance to the selection agent, and

the first gene product is part or all of a receptor;
wherein the first and second insertion DNA sequences are located between the first and second recombination DNA sequences in the DNA construct; and

wherein, the first and second recombination DNA sequences direct homologous recombination events between the first and second endogenous DNA sequences in the genome of the mammalian cell upon introduction of the DNA construct into the mammalian cell, such that the first and second insertion DNA sequences are inserted into the genome of the mammalian cell between the first and second endogenous DNA sequences.

72. (Previously Presented): A DNA construct according to claim 71, wherein the receptor is a receptor for an infectious or toxic agent.

73. (Previously Presented): A DNA construct according to claim 71, wherein the receptor is a retinoic acid receptor.

74. (Previously Presented): A DNA construct according to claim 71, wherein the receptor is a 3- β adrenergic receptor.

75. (Previously Presented): A DNA construct according to claim 71, wherein the receptor is an HIV receptor.

76. (Currently Amended): A DNA construct for homologous recombination, comprising:

(A) a first recombination DNA sequence and a second recombination DNA sequence,

wherein the first recombination DNA sequence is homologous to [[the]] a first endogenous DNA sequence in the genome of a mammalian cell, and the second recombination DNA sequence is homologous to a second endogenous DNA sequence in the genome of [[a]] the mammalian cell, ~~and the first and second endogenous sequences are adjacent to a desired insertion site in the genome of the mammalian cell; and~~

(B) a first insertion DNA sequence and a second insertion DNA sequence, wherein [[said]] the first insertion DNA sequence encodes a first gene product that does not confer resistance to a selection agent involved in the selection of transformants,

[[said]] the second insertion DNA sequence encodes a second gene product that confers resistance to a selection agent involved in the selection of transformants,

the second insertion DNA sequence is downstream of the first insertion DNA sequence,

the second insertion DNA sequence is operatively linked to regulatory elements that direct expression in transformed cells of the second gene product that confers resistance to the selection agent, and

the first gene product is part or all of an interferon;
wherein the first and second insertion DNA sequences are located between the first and second recombination DNA sequences in the DNA construct; and

wherein, the first and second recombination DNA sequences direct homologous recombination events between the first and second endogenous DNA sequences in the genome of the mammalian cell upon introduction of the DNA construct into the mammalian cell, such that the first and second insertion DNA sequences are inserted into the genome of the mammalian cell between the first and second endogenous DNA sequences.

77. (Currently Amended): A DNA construct for homologous recombination, comprising:

(A) a first recombination DNA sequence and a second recombination DNA sequence,

wherein the first recombination DNA sequence is homologous to [[the]] a first endogenous DNA sequence in the genome of a mammalian cell, and the second recombination DNA sequence is homologous to a second endogenous DNA sequence in the genome of [[a]] the mammalian cell, ~~and the first and second endogenous sequences are adjacent to a desired insertion site in the genome of the mammalian cell; and~~

(B) a first insertion DNA sequence and a second insertion DNA sequence, wherein [[said]] the first insertion DNA sequence encodes a first gene product that does not confer resistance to a selection agent involved in the selection of transformants,

[[said]] the second insertion DNA sequence encodes a second gene product that confers resistance to a selection agent involved in the selection of transformants,

the second insertion DNA sequence is downstream of the first insertion DNA sequence,

the second insertion DNA sequence is operatively linked to regulatory elements that direct expression in transformed cells of the second gene product that confers resistance to the selection agent, and

the first gene product is part or all of an interleukin;
wherein the first and second insertion DNA sequences are located between the first and second recombination DNA sequences in the DNA construct; and wherein, the first and second recombination DNA sequences direct homologous recombination events between the first and second endogenous DNA sequences in the

genome of the mammalian cell upon introduction of the DNA construct into the mammalian cell, such that the first and second insertion DNA sequences are inserted into the genome of the mammalian cell between the first and second endogenous DNA sequences.

78-101. (Canceled).